

Public Health, Hygiene and Sanitation

USSR

MIRZAYEVA, U. G., Uzbek Scientific Research Institute of Sanitation, Hygiene, and Occupational Diseases

"Clinical Picture of Vibration Sickness Caused by Local Vibration in the Hot Climate of Uzbekistan"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 5, 1971, pp 26-29

Abstract: A comparison of a large group of Uzbek riveters exposed to working conditions similar to those enjoyed by their counterparts in Moscow showed that vibration sickness does not begin to appear regularly among Uzbek workers until they have been on the job for 5 to 10 years, whereas it appears within 3 to 5 years in Muscovites (in 2.9 and 25.4% of the cases, respectively). This confirms the prevailing view that heat is the most effective means of preventing vibration sickness (the mean summer temperature ranges from 22 to 30.5° C in Uzbekistan). Moreover, the disease is much milder among the Uzbeks. The moderately severe form was found in a substantial number of temperate zone workers after 5 to 6 years of experience, but it was not detected among the Uzbeks until they were working 10 to 15 years. Some of the clinical symptoms are also different. In Uzbekistan, the disease is characterized chiefly by neurological disorders, less pain, and absence of finger pallor during cold weather.

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1/2 006 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--QUANTITATIVE DETERMINATION OF RESERPINE IN SOME PREPARATIONS BY
THIN SOLVENT LAYER CHROMATOGRAPHY -U-
AUTHOR--MIRZAZADE, N.A. M
COUNTRY OF INFO--USSR
SOURCE--AZERB. MED. ZH. 1970, 47(2), 26-30
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--THIN LAYER CHROMATOGRAPHY, RESERPINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0753 STEP NO--UR/0488/70/047/002/0026/0030
CIRC ACCESSION NO--AP0134400
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134486

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO 1 ML ETCH SOLN. (20 MU G
RESERPINE) ADD 1 ML 2 N H SUB2 SO SUB4 AND 1 ML 0.4PERCENT NANO SUB2; 1
HR LATER ADD 0.5 ML 40PERCENT UREA AND LET STAND 30 MIN. ABSORBANCE IS
MEASURED AT 372 M MU AGAINST A REFERENCE PREPD. BY MIXING ALL REAGENTS
AND ADDING THE SAMPLE AFTER THE ADDN. OF UREA. THIN LAYER CHROMATOG.
WAS CARRIED OUT ON UNBOUND AL SUB2 O SUB3, ACTIVITY II, WITH C SUB6 H
SUB6-ETCH (9:1). SPOTS WERE DETECTED BY THE YELLOW GREEN FLUORESCENCE
IN UV AND WERE ISOLATED, EXTD. WITH CHCL SUB3 AND TREATED AS ABOVE;
RELATIVE ERROR, 1.26-1.73PERCENT. TABLETS WERE CRUSHED, EXTD. WITH CHCL
SUB3, THE EXT. EVAPD. TO DRYNESS BEFORE SOLN. IN ETCH. FACILITY:
AZERB. GUS. MED. INST. IM. NARIMANOVA, BAKU, USSR.

UNCLASSIFIED

USSR

GAMAYEV, M. K., ASKEROV, A. A., MIRZA-ZADE, S. R., and DASHDAMIROV, D. M.

Pasterellls (Pasteurellosis), Baku, "ELM," 1970, 268 pp

Translation: Table of Contents:

Introduction

Pasteurellosis (Hemorrhagic Septicemia) of Cattle and Buffaloes

Etiology

Morphology

Biochemical Properties

Antigenic Properties

Serologic Properties

Pathogenicity

Toxin Formation

Resistance

Sources and Development

The Role of Ticks in Pasteurellosis Infection

Susceptibility and Routes of Infection

The Carrier State

Role of Environmental Factors in Epizootiology

Pathogenesis

The Clinical Picture

1/4

3

12

12

12

17

39

43

44

48

54

57

59

61

66

72

75

77

USSR

GANIYEV, M. K., et al., Pastereillz, Baku, "ELM," 1970, 268 pp

Pathological Anatomical Changes	81
Diagnosis and Differential Diagnosis	85
Medical Treatment	86
Specific Prophylaxis	89
Passive Prophylaxis	89
Active Prophylaxis	90
Control Measures	99
Pasteurellosis (Hemorrhagic Septicemia) of Sheep	102
Brief Historical Survey	102
Biology of the Pathogen	103
Epizootiology	111
Distribution	115
The Influence of Meteorological, Climatic, and Veterinary Hygiene	121
Conditions	124
The Effect of Two-Way and One-Way Sheep Drives	125
The Role of Secondary Infections	127
The Susceptibility of Sheep to Pasteurellosis in Relation to Age	128
Pasteurellosis Carrier State	
The Course, Clinical Treatment of the Disease, and Pathological	138
Anatomical Changes	

2/4

- 101 -

USSR

GANIYEV, M. K., et al., Pasterelliz, Baku, "ELM," 1970, 268 pp

Morphological, Biochemical, and Cultural Characteristics of Pasteurellosis	143
Cultures Isolated from Sheep Dead of Pasteurellosis	144
Pasteurellosis Control Measures for Sheep and Goats	148
Pasteurellosis (Hemorrhagic Septicemia) of Swine	149
Epizootiology	151
Distribution	152
The Role of the Environment, Care, and Maintenance of Swine	155
Clinical Criteria and Pathological Anatomical Changes	157
Control Measures for Pasteurellosis of Swine	170
The use of a Semiliquid Formol Vaccine Under Production Conditions	173
Pasteurellosis of Birds	175
Properties of the Pathogen of Avian Pasteurellosis	175
Morphological, Cultural, and Biochemical Properties	184
Virulence	188
Toxin Formation	189
Resistance	192
Susceptibility and Routes of Infection	
The Role of Environmental Factors in the Epizootiology of Fowl	201
Pasteurellosis	

3/4

USSR

GANIYEV, M. K., et al., Pastorellez, Baku, "ELM," 1970, 268 pp

Climatic and Meteorological Factors	201
Sources	203
Pasteurellosis Carrier State	207
Pathogenesis	209
The Clinical Picture, Pathological Anatomical Changes, and Diagnosis	212
Of Fowl Pasteurellosis	221
The Medical Treatment and Prophylaxis of Fowl Pasteurellosis	234
Active Specific Prophylaxis	234
Live-Culture Vaccination	239
Killed-Culture Vaccination	244
Use of Serum and Other Preparations	253
General Control Measures	258
Rabbit Pasteurellosis	263
Bibliography	

4/4

- 102 -

USSR

UDC: 621.373.421.13

AL'TSHULLER, G. B., MIRZIN, V. I., PARFENOV, V. G.

"Effect Which the Transconductance Phase of a Transistor Has on the Frequency Stability of a Quartz Crystal Oscillator"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices in Technical Electrical Communications---collection of works), Moscow, "Svyaz'", 1970, pp 113-121 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No No 1D342)

Translation: The authors consider frequency relationships in a quartz crystal controlled oscillator with regard to complex conductivities and the transconductance phase of the transistor. An expression is presented for determining the mismatch of the oscillator relative to the series resonance frequency. A formula is derived for calculating the component of frequency instability due to the effect of a change in the transconductance phase of the transistor. In addition, a study is made of the dependence of the given frequency instability component on the value of the given mismatch. Three illustrations, bibliography of six titles. Resumé.

1/1

1/3 .010
UNCLASSIFIED
PROCESSING DATE--09OCT70
TITLE--EVALUATIONS OF THE MEAN AGES OF O-B5 STARS BASED ON THEIR
DISTRIBUTION IN STELLAR ASSOCIATIONS -U-
AUTHOR--(03)--MIRZUYAN, L.V., KAZARYAN, E.S., CHAVUSHYAN, O.S.
COUNTRY OF INFO--USSR M
SOURCE--SOUVSHCHENIYA BYURAKANSKOY OBSERVATORII AKADEMIYA NAUK ARMAYNSKOY
SSR, 1970, NR 41, PP 69-79
DATE PUBLISHED--70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--STAR, STELLAR EVOLUTION, FIRST APPROXIMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/0370

STEP NO--UR/2620/70/000/041/0069/0079

CIRC ACCESSION NO--AP0114660

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

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CIRC ACCESSION NO--AP0114660

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF THE OBSERVATIONAL MATERIAL (TABLE 1) THE SPACE DISTRIBUTIONS OF O-B0, B0.5-B1, B1.5-B2 AND B2.5-B5 STARS IN THE SYNTHETIC STELLAR ASSOCIATION (TABLE 2) HAVE BEEN DETERMINED. BY MEANS OF THE OBTAINED DATA TAKEN WITH THE "HYPERBOLIC" APPROXIMATION (1) (TABLE 3) THE MEAN AGES OF THE STARS FOR EACH OF THE MENTIONED INTERVALS OF SPECTRAL TYPES HAVE BEEN EVALUATED. IT HAS BEEN SUPPOSED THAT ALL STARS HAVE BEEN EJECTED FROM THE NUCLEI OF THE EXPANDING STELLAR ASSOCIATIONS AND THAT THE SYNTHETIC ASSOCIATION REGARDING TO THE PHENOMENON OF STELLAR FORMATION IS IN A STATIONARY STATE. THE STELLAR AGEING FUNCTION $F(R)$ (16) IS USED, WHICH ACTUALLY PRESENTS THE DEPENDENCE OF THE FLOW OF EXPANDING STARS OF A GIVEN SPECTRAL TYPE FROM THE DISTANCE (2) AND DETERMINES THEIR AGING RATES. TAKING INTO ACCOUNT THAT, ACCORDING TO THE OBSERVATIONAL DATA, THE PROCESS OF O-B STARS AGING HAS, IN A FIRST APPROXIMATION, THE PROPERTIES OF A STATISTICAL PROCESS (3, 16), $F(R)$ IS PRESENTED BY AN EXPONENTIAL FUNCTION (3). IF THE VELOCITY OF EXPANSION IN THE ASSOCIATION IS CONSTANT, THEN THE DETERMINATION OF THE SLOPE OF THE LINEAR RELATION ($\lg F(R), R$) (FIG. 2), OBTAINED ON THE BASIS OF THE OBSERVATIONAL DATA, IS EQUIVALENT TO THE EVALUATION OF THE MEAN AGES OF STARS. IN FACT THE MEAN VELOCITY OF EXPANSION INCREASES WITH THE DISTANCE FROM THE CENTRE OF THE SYNTHETIC ASSOCIATION. THE EVALUATIONS OF O-B5 STARS AGES FOR TWO CASES, OF A CONSTANT VELOCITY OF EXPANSION (K EQUALS 1) AND OF A VELOCITY, INCREASING LINEARLY WITH THE DISTANCE (K EQUALS 2), ARE PRESENTED (TABLE 2).

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3/3 010

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0114660

ABSTRACT/EXTRACT--THE OBSERVED DEPENDENCE OF THE MEAN AGES OF O-B5 STARS FROM THE SPECTRAL TYPE (FIG. 3) CORRESPONDS TO THE KNOWN EVALUATIONS OF AGES OBTAINED BY OTHER METHODS AND TESTIFIES THE VALIDITY OF THE USED METHOD.

89

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--FLARE STARS IN THE PLEIADES -U-
AUTHOR--(05)-AMBARTSUMIAN, V.A., MIRZOLIAN, L.V., PARSAMIAN, E.S.,
CHAVUSHIAN, O.S., YERASTOVA, L.K. *m*
COUNTRY OF INFO--USSR
SOURCE--ASTROFIZIKA, VOL. 6, FEB. 1970, P. 7-30
DATE PUBLISHED----FEB70
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--STAR, ASTRONOMIC OBSERVATORY, FLARE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1770 STEP NO--UR/0388/70/006/000/0007/0030
CIRC ACCESSION NO--AP0125386
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0125386

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OBSERVATIONAL DATA FOR 46 NEW FLARE STARS DISCOVERED IN THE PLEIADES DURING 1968 AND 1969 AT THE TONANTZINTLA, ASIAGO, BIURAKAN, BUDAPEST, AND ALMA ATA OBSERVATORIES. A STATISTICAL STUDY OF FLARE STARS SHOWS THAT THEIR OVERALL NUMBER IN THE PLEIADES SHOULD EXCEED 600. THE DISTRIBUTION OF FLARE STARS ACCORDING TO THE NUMBER OF OBSERVED FLARES IS WELL REPRESENTED BY THE SUM OF TWO POISSON DISTRIBUTIONS WITH DIFFERENT MEAN FREQUENCIES. ALL, OR ALMOST ALL, OF THE MEMBERS IN PLEIADES WITH VISUAL MAGNITUDES LESS THAN 13.3 ARE FLARE STARS. AT A VALUE OF 13.29, THERE IS A SHARP BORDER BETWEEN PHOTOGRAPHICALLY OBSERVABLE FLARE STARS AND NONFLARING STARS. THE MEAN FREQUENCY OF LARGE FLARES (AMPLITUDE GREATER THAN 0.6 MAGNITUDE) WAS .0001 PER HR FOR MOST STARS. FACILITY: BIURAKANSKAIA ASTROFIZICHESKAIA OBSERVATORIIA, YEREVAN, ARMENIAN SSR.

UNCLASSIFIED

UDC 612.824+616.831-005

USSR

MIRZOYAN, S. A., MKHEYAN, E. Ye., SEKOYAN, E. S., and SOTSKIY, O. P.,
Yerevan State Medical Institute

"Influence of Gangliosides on Blood Circulation in the Brain"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 2, 1971, pp 507-509

Abstract: The effect of gangliosides on the following aspects of blood circulation in the brain was investigated: changes in blood vessel tonus; systemic arterial pressure; linear speed of blood flow through the gray matter; intracranial blood accumulation. Tests were conducted under conditions of natural and artificial respiration. Intracarotid introduction of gangliosides was accompanied by a distinct increase in the resistance of cerebral blood vessels, by a drop in the systemic pressure, and by a decrease in the amplitude and frequency of respiratory movements. The degree of reaction produced by gangliosides was directly dependent on the size of the doses. The smaller the dose, the less the strength and duration of the effect. Intravenous introduction of gangliosides led to a marked reduction in blood supply to the cortex, a marked and quick drop in the blood flow rate, a lowering of arterial pressure, a short suspension of respiration, and a distinct decrease in intracranial blood accumulation. In conclusion,

1/2

172 018 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--GLUTAMIC ACID DECARBOXYLASE ACTIVITY IN BRAIN VESSELS -U-
AUTHOR--(03)-MIRZOYAN, S.A., KAZARYAN, B.A., AKOPYAN, V.P.
COUNTRY OF INFO--USSR M
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1241-1
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--GLUTAMIC ACID, DEHYDROGENASE, ENZYME ACTIVITY, BRAIN,
AMINOBUTYRIC ACID

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1014 STEP NO--UR/0020/70/190/005/1241/1242
CIRC ACCESSION NO--AT0121610
UNCLASSIFIED

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PROCESSING DATE--23OCT70

2/2 018

CIRC ACCESSION NO--AT0121610

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. INCUBATION OF A HOMOGENATE OF DOG
BRAIN BLOOD VESSELS WITH PYRIDOXAL PHOSPHATE AND GLUTAMATE YIELDED 48 MU
G GAMMA AMINOBUTYRIC ACID, G OF FRESH TISSUE IN 30 MIN. SIMILAR EXPTS.
WITH DOG AORTAS AND CAROTID ARTERIES YIELDED NO DETECTABLE AHTS. OF THIS
COMPD. FACILITY: EREVAN. MED. INST., EREVAN, USSR.

UNCLASSIFIED

UDC 615.5

M
13R

MIRZOYAN, S. A., GABRIYELYAN, E. S., and AMROYAN, E. A., Yerevan Medical Institute

"Study of the Effect of Gangleron and Quateleron on Various Physicochemical Properties of Arterial Blood"

Yerevan, Doklady Akademii Nauk Armyanskoy SSR, No 3, 1970, pp 182-186

Abstract: The effect of the title compounds on the acid-base equilibrium in the arterial blood of cats was studied. It was previously shown that these compounds can change the circulation level in the cerebrum. Twenty-five cats were studied under anesthesia. A fine polyethylene catheter was inserted into the carotid artery for removal of blood samples. The compounds under investigation were introduced through the femoral vein. The pH and CO₂ pressure of the arterial blood were monitored by electrodes. It was found that gangleron in an amount of 1 mg/kg increases the CO₂ pressure in arterial blood within 10 min of introduction. The pH of the blood is changed, also, but other properties are not significantly changed. Intravenous administration of quateleron in a dose of 0.5 mg/kg also brings about a significant change in the CO₂ pressure of the arterial blood (from 33.70 ± 0.95 in controls to 38.56 ± 1.64 mm Hg). Also the pH of the blood is affected. In contrast to the case of gangleron, the pO₂ is somewhat changed.

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USSR

MIRZOYAN, S. A., et al, Doklady Akademii Nauk Armyanskoy SSR, No 3, 1970, pp 182-186

Experimental data indicate that gangleron and quateleron have an effect on the respiratory component of the acid-base equilibrium of arterial blood. Together with the action of quateleron, which increases the pCO_2 , a drop in oxygen concentration and oxygen saturation is also observed.

2/2

- 75 -

UDC 577.44

USSR

MIRZOYAN, V. S. and MELOYAN, E. A., Laboratory of Visual Perception, Academy of Sciences Armenian SSR

"The Effects of Ultrasound on the Functional State of the Frog Retina as Indicated on Electroretinograms"

Yerevan, Biologicheskii Zhurnal Armenii, Vol 23, No 12, pp 50-59

Abstract: The effects of ultrasound waves on biological organisms are especially interesting since neither man nor animals have special receptors for these waves. In this study electroretinograms (ERG) were recorded from frog eyes before and after the frogs were exposed to 20,000 Hz of ultrasound waves of an intensity of 5 w/cm². In the first group, frogs were irradiated with the ultrasound waves until they died; the average survival time was 12-13 min. The second group was irradiated for 10 min. The ERG taken 1 hour later showed significant shifts in the "V" waves; the frogs died in 3-8 days. The third group was irradiated for only 8 minutes, and the frogs survived. The ERG showed definite shifts in all its components: the amplitude of the waves was markedly decreased, and new waves appeared. Complete normalization of the ERG took place in 1-2 months. Repeated irradiation under identical conditions induced similar but less pronounced shifts which disappeared in 18-20 days.

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--INHIBITOR OF MECHANICAL DEGRADATION OF POLYMERIC ADDITIVES IN
LUBRICATING OIL -U-
AUTHOR--(02)-MAMEDOV, F.N., MIRZOYEV, A.A. M

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,580
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, MECHANICAL PROPERTY, SULFIDE, BENZENE
DERIVATIVE, LUBRICANT ADDITIVE, LUBRICATING OIL, CHEMICAL STABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--3003/1799

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130632

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0130632

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BETA, (CARBOXYMETHYL) ISOPROPYL

P-ALKYLPHENYL SULFIDE IS USED AS THE TITLE INHIBITOR. FACILITY:

INSTITUTE OF ADDITIVE CHEMISTRY, ACADEMY OF SCIENCES, AZERBAIDZHAN
S.S.R.

UNCLASSIFIED

USSR

MIRZOYEV, A. T. and RADZIYEVSKIY, V. S.

"Modeling of Processes of Perception and Recognition of Properties of Objects with a Two-Step Basis Hierarchy"

Modelirovaniye Protsessov Vospriyatiya i Raspoznavaniya Svoystv Ob'yektov pri Dvushagovoy Bazisnoy Iyerarkhii [English version above], Tbilisi, 1972, 5 pp (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V786DEP)

Translation: A conceptual method is suggested for description of objects (events, states), based on the matrix binary logic suggested by Professor V. V. Chavchanidze. Sets of disjunctive normal forms (DNF) are formed by means of matrix filters. Each DNF, according to the learning material, takes on nontrivial value only in certain sets of characteristics. Whereas during the first stage recognition requires at least implicant passage of the analyzed portion of the examination trajectory through one of the DNF over the first filter, during the second stage the introduction of the concept of congruent recognition reduces the requirement to the trajectory to the level of agreement of only $(k - \sigma)$ characteristics, where σ is the maximum coefficient of distortion of similarity -- the maximum permissible number of variable characteristics in the sequence of abstract orders of characteristics. It is easy to see that the concept formulated thus allows an artificial

1/2

-- 73 --

USSR

MIRZOYEV, A. T. and RADZIYEVSKIY, V. S., Modelirovaniye Protsessov
Vospriyatiya i Raspoznavaniya Svoystv Ob'yektov pri Dvushagovoy Basis-
noy Iyerarkhii, Tbilisi, 1972, 5 pp

intellect to recognize a significantly greater number of objects (events,
states) than the limited study material allows. Author's view

2/2

USSR

UDC 577.174.5

POKROVSKIY, A. A., KUSHMANOVA, O. D., SHATERNIKOVA, I. S., MIRZOYEV, B. M. and LASHNEVA, N. V., Chair of Biochemistry, Second Moscow Medical Institute imeni N. I. Pirogov, and Scientific Research Institute of Civil Aviation

"Data on the Functional State of the Adrenal Cortex during Experimental Insomnia in Rats"

Kiev, Ukrainskiy Biokhimicheskiy Zhurnal, Vol 42, No 3, 1970, pp 353-356

Abstract: Experimental insomnia was evoked in rats by placing them in a slowly rotating drum. During the first day, more than a threefold increase in 11-hydroxycorticosteroid content was observed in blood plasma and cholesterol in the adrenals was lowered by 50% and total lipids by 20%. On the fourth day the content of 11-hydroxycorticosteroids dropped by 33% in comparison to the original level, while cholesterol and total lipids were depressed 78% and 50%, respectively. The content of ascorbic acid in adrenal tissue decreased mainly at the expense of its reduced form, while in the blood serum the concentration increased, particularly that of dehydroascorbic acid. Animals evidently succumb in experimental insomnia because of insufficient synthesis of steroid hormones by the adrenals, which in turn may be the result of a breakdown in cholesterol synthesis and a low level of the reduced form of ascorbic acid.

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- 43 -

UDC 611.018.1-09:616-006:616-001.23:615.771.7

USSR

MIRZOYEV, E. A., Chair of Clinical Radiology (Head Professor stat A. S. Pavlov),
of the Central Order of Lenin Institute for Advanced Training of Physicians,
Moscow

"Formation of Polynuclear and Giant Cells in a HeLa Culture Under the Influence of
Combined Administration of 5-Fluorouracil and Irradiation"

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, Vol 47, No 7, Jul 70, pp 22-26

Abstract: HeLa cultures were irradiated using a linear electron accelerator (dose, 155 rad), alone and in combination with administration of 5-fluorouracil (doses, 0.5, 2, 40, and 80 gamma/ml). Observations were made for a period of 7 days after treatment. The densest formation of polynuclear and giant cells was observed with higher radiation doses (500 and 250 rad). With low doses (100 and 50 rad, particularly the latter), no significant formation of polynuclear and giant cells was observed for 3 days after initiation of the irradiation treatment. When 5-fluorouracil (0.5 gamma/ml) had been administered and irradiation was continued for 1.5 hour, however a great number of polynuclear and giant cells were formed after 3 days. The dosage dependence of these phenomena was studied in detail and statistically analyzed. A quantitative relationship was found between the formation

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USSR

MIRZOYEV, E. A., et al, Azerbaydzhanskiy Meditsinskiy Zhurnal, Vol 47, No 7.
Jul 70, pp 22-26

of polynuclear and giant cells and both the radiation dose and various doses of
5-fluorouracil. The cells formed behave like gradually dying elements.

2/2

USSR

UDC: 681.34

AVROV, O. M., GOLENDBERG, N. A., KUTSITSKIY, V. G., MIRZOYEV, G. A.,
MOZZHUKHIN, M. S., POKROVSKIY, V. S., SHAKHPAZOV, S. Kh.

"A Device for Combining the Readings of a Multichannel Angle-Phase-Code Converter"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 4, Feb 71, Author's Certificate No 292182, Division G, filed 11 Aug 69,
published 6 Jan 71, p 137

Translation: This Author's Certificate introduces a device for combining the readings of a multichannel angle-phase-code converter which contains charging elements, series-connected switches, combining circuits and flip-flops. As a distinguishing feature of the patent, conversion time is reduced by connecting the output of the coarse reading channel of the converter to the input of the chief readout switch, the second input of this switch being connected to the output of the chief readout flip-flop. The switch output is connected to the input of the first delay element and to the second input of the control flip-flop. The output of the channel for the least significant reading of the converter is connected to the second input of the chief readout flip-flop. The first input of this flip-flop is connected to the first input of the control flip-flop and to the output of the control switch, and the second input of the control switch is connected to the output of the control flip-flop.

1/1

- 57 -

USSR

UDC 533.6.011.08

MIRZOYEV, I.M.

"Calculation of an Axially Symmetric Gas Jet Escaping Into a Concurrent Supersonic Stream and Flowing Past a Given Body With Heat Supply"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk, Kibernetika, No 1, 1972, pp 17-20

Abstract: The stabilized axially symmetric motion of a gas escaping into a concurrent axially symmetric stream with heat supply is described by a system of four equations: a) the equation of continuity; b) and c), the equations of motion, and d) an energy equation which accounts for the supply of heat to the gas. Equations are derived, which describe the motion of the external concurrent stream. The parameters of the external stream after the shock wave and after the rarefaction wave are determined numerically according to well-known formulas. Results of calculations of pressure distribution along the wall after expansion at a point show that the greater the heat release in the jet, the higher is the pressure on the given body, and the tractive force also increases. Comparison of the pressure distribution along the wall for a plane problem and for an axially symmetric problem shows that in the plane case the pressure remains almost constant after each reflection of the rarefaction wave, whereas in the axially symmetric case the pressure in such regions increases. 3 Figures, 3 References.

1/1

Alkaloids

USSR

UDC 547.944.945

MIRZOEYEV, KH. M., Azerbaydzhan Medical Institute Imeni N. Narimanov

"Chemical Study of Yew (*Taxus Baccata*) Alkaloids"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 1 (73), 1971, pp 73-77

Abstract: Domestic yew (*Taxus Baccata*) from Kutkashensk region was studied. The leaves contained 17% water extractable material, the bark gave 12.4% of the extract. After separation by routine methods the extracts obtained from leaves gave 0.85% of alkaloids, based on dry weight. Thin layer chromatography showed the presence of two alkaloids A and B which could not be resolved by column chromatography using several absorbents. Chloroform extraction gave an alkaloid "A" and ether extraction from a basic solution yielded the alkaloid "B" -- eventually shown to be Taksin on the basis of its physical properties. The alkaloid "A" is less polar than "B", it melts at 112-113°, $[\alpha]_D^{20} + 10.7^\circ$; it appears to be a new alkaloid. It does not absorb in the UV and shows the following bands in the IR: 3400-3500, 1740, 1670, 1640, 1240, 1190, 1040, 990, and 760 cm^{-1} . Ephedrine was not isolated from the extracted material.

1/1

UDC 547.944/945

USSR

MIRZOYEV, Kh. M., ABDUSAMATOV, A., and YUNUSOV, S. Yu., Azerbaydzhan Medical Institute imeni N. Narimanov; "Order of the Red Banner of Labor" Institute of the Chemistry of Plant Materials, Academy of Sciences of the Uzbek SSR

"Alkaloids of *Taxus Baccata*"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 6, 1970, pp 777-778

Abstract: The authors investigate the alkaloid make-up of the leaves of *Taxus baccata* (the English yew). An ether extract of the plant material yielded an alkaloid sum which was chromatographically separated into two bases -- A and B. Base B is identified as taxine. IR-spectroscopic data are given for base A.

1/1

Acc. Nr.: AP0044051Ref. Code: UA0387
JPRS 50052Energy of Elastic Impulses in the Destruction of Samples

(Abstract: "On the Energy of Elastic Impulses Accompanying the Destruction of Samples of Inhomogeneous Materials," by S. D. Vinogradov and K. M. Mirzoyev, Institute of Physics of the Earth; Moscow, Izvestiya Akademii Nauk SSSR, Fizika Zemli, No. 1, 1970, pp. 37-45)

Samples of cubic form measuring 10 x 10 x 10 cm of cement with granite inclusions were destroyed. Two types of inhomogeneities were investigated: samples with a large (1,500) number of small inclusions of irregular angular configuration with linear dimensions of about 3 mm (samples with fine gravel) and samples with a small (20-25) number of inclusions measuring 25-30 mm, also of angular configuration (samples with coarse gravel). Samples were destroyed with a constant rate of deformation under conditions of unilateral compression under a press with a "dry" contact between the sample and the press plates. The detector of elastic oscillations was a piezo-electric sensor mounted on the lateral surface of the sample. The elastic impulses forming in the course of destruction of the sample were registered on magnetic tape. Four series of experiments (8-10 samples in each series) were run for samples with

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AP0044051

these two types of inhomogeneities. The records of destruction processes and data on stresses and strains made it possible to compute the seismic energy, elastic energy accumulated in a sample by the time of its destruction and the work and mean energy expended on deformation of the sample. All these data are summarized in tables. It was found that with a change in the rate of deformation there is a considerable change in the quantity of released seismic energy. Despite the same rate of deformation, different energies are expended on the deformation of samples of different inhomogeneity. The seismic energy is quite dependent on the rate of the deformation process. The maximum impulse and the frequency of strong impulses increase considerably with an increase in the rate of the deformation process. The ratio of the released seismic energy to the stored elastic energy is dependent to a high degree on the rate of the deformation process or on the energy expended on deformation of the material.

19770513

USSR

UDC: 537.29:669.01

DAVYDOV, A. D., KASHCHEYEV, V. D., MIRZOYEV, R. A., Moscow

"Anodic Dissolution of Iron- and Nickel-Based Alloys in the Process of Electrochemical Dimensional Working in Sodium Chloride Solutions"

Moscow, Fizika i Khimiya Obrabotki Materialov [The Physics and Chemistry of Materials Processing], No 6, Nov-Dec 73, pp 32-36.

Abstract: Anodic polarization curves are produced for a number of alloys based on iron and nickel in sodium chloride solutions up to current densities of 50 a/cm^2 . The electrode potentials in the current density interval studied do not exceed + 3.2 v. The heat treatment mode of the alloys may have a significant influence on their anodic behavior. The anodic dissolution of iron- and nickel-based alloys in sodium chloride solutions may vary in nature as a function of electrode potential. Accordingly, the polarization curve generally has several sections. The local value of potential on the surface of the part being worked depends significantly on the hydrodynamic conditions in the interelectrode gap. Upon transition from activated dissolution of the electrode to dissolution in the state of transpassivation, the external

1/2

- 79 -

USSR

Davydov, A. D., Kashcheyev, V. D., Mirzoyev, R. A., Moscow, Fizika i Khimiya Obrabotki Materialov, No 6, Nov-Dec 73, pp 32-36.

appearance and smoothness of the anode surface change and the yield per current may drop. Anodic dissolution of alloys in the transpassive state may occur quite rapidly.

2/2

1/2 034 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--APPROXIMATE THEORY OF THE UNSYMMETRICAL PROCESS OF CALENDERING
POLYMER MATERIALS -U-
AUTHOR--(03)--KRASOVSKIY, V.N., MINISHKI, V.I., MIRZDEV, R.G.
COUNTRY OF INFO--USSR
SOURCE--KAUCH. REZINA 1970, 29(2), 31-4
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--RUBBER, POLYMER, MECHANICAL STRESS, PLASTIC FABRICATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1993/0389 STEP NO--UR/0138/70/029/002/0031/0034
CIRC ACCESSION NO--AP0113307
UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0113307
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE TITLE PROCESS
PARAMETERS (ROLLER ROTATION RATES, ANGLE SUBTENDED BY THE CLOTH,
PRESSURE BETWEEN THE ROLLERS) ON THE DISTRIBUTION OF STRESSES IN THE
RUBBER OF POLYMERIC MASS WAS ANALYZED MATH. FACILITY:
LENINGRAD. TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--REFRACTOMETRIC DETERMINATION OF FURFURAL CONTENT IN RAFFINATE AND
EXTRACT SOLUTIONS OF THE SELECTIVE REFINING OF OILS -U-
AUTHOR--(04)-ISMAYLOV, R.G., KHARKOVSKIY, YU.I., MIRZOYEV, S.O.,
HUGANLINSKIY, F.F.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT GAZ 1970, 13(2), 57-60
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--FURFURAL, PETROLEUM PRODUCT, CHEMICAL ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1634 STEP NO--UR/0152/70/013/002/0057/0060
CIRC ACCESSION NO--AT0118613
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 009

CIRC ACCESSION NO--AT0118613

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. RAFFINATE AND EXT. WERE EXTG. WITH

WATER, ADDING SOME PETROLEUM ETHER TO PREVENT FORMATION OF EMULSION.

FURFURAL (I) WAS PRESENT IN THE AQ. EXTs. SMALLER THAN OR EQUAL TO 2 WT. PERCENT. THE DETO. ERRORS WERE SMALLER THAN OR EQUAL 1PERCENT ABS. THE

DEPENDENCE OF THE CONCN. OF I ON THE REFRACTOMETRIC INDICATIONS IS GRAPHICALLY PRESENTED.

FACILITY: AZERB. INST. NEFTI KHIM. IM.

AZIZBEKOVA, BAKU, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--INFLUENCE OF ROTATION SPEED OF A DISK CONTACTOR DURING THE REFINING
OF OILS WITH FURFURAL -U-
AUTHOR-(03)-PEREPELITSKIY, B.B., MIRZOYEV, S.D., DAVIDYAN, L.K.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT GAZ 1970, 13(1), 63-4
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--LUBRICATING OIL, FURFURAL, LUBRICANT REFINING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1637 STEP NO--UR/0152/70/013/001/0063/0064
CIRC ACCESSION NO--AT0118616
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 011

CIRC ACCESSION NO--AT0118616

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR REFINING AUTOMOBILE OILS OF D
PRIME20 0.9143-0.9192, KINEMATIC VISCOSITY OF 100DEGREES 6.52-10.35 CST,
AT INTAKE VELOCITY 0.6 M PRIME3-M PRIME2-HR AND FURFURAL INTAKE STOCK
WT. RATIO 0.9-1.2:1, THE TITLE DISK SPEED WAS 250-300 RPM. FOR DIESEL
OIL DISTILLATE OF D PRIME30 0.924, VISCOSITY 12.27 CST, INTAKE 0.5 M
PRIME3-M PRIME2-HR, AND WT. RATIO 1.8DEGREES1, THE SPEED WAS 300-400
RPM. FACILITY: AZERB. INST. NEFTI KHIM, IM. AZIZBEKOVA, BAKU,
USSR.

UNCLASSIFIED

1/2 031 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--FORMATION OF HIP JOINTS AFTER REDUCTION OF CONGENITAL DISLOCATION
OF THE HIP IN CHILDREN -U-
AUTHOR--MIRZOYEVA, I.I. M
COUNTRY OF INFO--USSR
SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 3, PP 57-62
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CLINICAL MEDICINE, X RAY APPLICATION, BONE, ORTHOPEDIC
SURGERY, MAN, PEDIATRICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/1433 STEP NO--UR/9115/70/000/003/0057/0062
CIRC ACCESSION NO--AP0094295
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0054295

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR HAS STUDIED IN DYNAMICS THE CLINICAL AND ROENTGENOGRAPHIC END RESULTS OF BLOODLESS REDUCTION OF CONGENITAL DISLOCATION OF THE HIP BY THE METHOD OF PACI LORENZ IN 200 CHILDREN AFTER A FOLLOW UP FROM 10 TO 20 YEARS, SIMPLE OPEN REDUCTION IN 140 CHILDREN AFTER 5 TO 15 YEARS, AND OPERATION BY THE ZAHRADNICEK'S METHOD IN 100 CHILDREN 3 TO 10 YEARS AFTER REDUCTION. DATA OF FOLLOW UP STUDY HAVE SHOWN THE POSSIBLE LIMITS AND RATES OF DEVELOPMENT OF DYSPLASTIC JOINTS DEPENDING ON AGE, METHOD OF REDUCTION AND SEVERITY OF PATHOLOGY. A DETAILED STUDY OF THE ANGULAR AND LINEAR INDICES OF JOINT DEVELOPMENT HAS DEMONSTRATED THE NECESSITY OF CONSIDERATION OF AGE PECULIARITIES, SEPARATE SYMPTOMS AND OF COMPARISON OF THE INTERRELATED VALUES (ANGLES OF NECK AND ACETABULUM, EPIPHYSEAL SIZES AND DEPTH OF SOCKET, COEFFICIENTS OF THE FEMORAL HEAD SEATING AND ETC.). ANALYSIS OF THE LATE RESULTS OF TREATMENT REVEALED THE MOST TYPICAL VARIANTS OF JOINT FORMATION. EVIDENCE IS FURNISHED THAT BY USE OF ADEQUATE PROCEDURE OF REDUCTION, JOINT INDICES APPROACHING THE NORMAL ONES MAY BE ATTAINED NOT ONLY IN BLOODLESS, BUT ALSO OPERATIVE REDUCTION OF CONGENITAL DISLOCATIONS AND SUBLUXATIONS IN CHILDREN. IN STRUCTURAL DEFECTS OF JOINT COMPONENTS AND THEIR CORRELATIONS IN CHILDREN, THE PROGNOSIS WITH RESPECT TO STRUCTURE AND FUNCTION IS BAD.

UNCLASSIFIED

Vector Studies

UDC 595.771.576.858

USSR

SOKOLOVA, E. I., ~~MIRZOYEVA, N. M.~~, KULIYEVA, N. M., GROMASHEVSKIY, V. L., and CHERVONSKIY, V. I., Institute of Virology, Microbiology, and Hygiene imeni G. M. Musabekov, Ministry of Health Azerbaydzhan SSR, Baku, and Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Experimental Transmission of Sindbis Virus by *Aedes aegypti* L. Mosquitoes"

Leningrad, Parazitologiya, No 5, 1971, pp 405-407

Abstract: *Aedes aegypti* is susceptible to Sindbis virus, strain A3-574. Twenty-four to forty-eight hours after the mosquitoes were allowed to feed on mouse tails filled with a viral suspension or on suckling mice, the virus titer in the insects was quite high, 10^{-5} , and 2 days later it rose to 10^{-6} . On the 7th day it fell to 10^{-4} but rose on the 10th day to 10^{-5} , reaching a peak on the 16th day, 10^{-6} . The high titers persisted until the 26th day when they began to fall to 10^{-3} (on day 29). Three to five days after suckling mice were exposed to the infected mosquitoes, the animals developed paralysis of the hind legs and died.

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USSR

SAFARALIBEKOV, M. G., (Deceased), YAGODZINSKAYA, YE. M., MIRZOYEVA, N. M.,
LEYBZON, M. M. and USTINOVICH, V. N.

"Characteristics of the Clinical Course of Ornithosis"

Azerbaydzhanskiy Meditsinskiy Zhurnal, No 2, 1970, pp 71-74.

Translation: The clinical picture of ornithosis, incorrectly diagnosed as pneumonia or neurasthenia, was described for the first time in Azerbaydzhani (Agdzhabedinskiy rayon). Semi-wild pigeons were the source of infection. Serological and virological studies were conducted in the arbovirus laboratory of the VMIG Institute. Three of the 15 pigeons were serologically positive, and ornithosis virus was isolated from one of them, with characteristic intracellular inclusions in liver and spleen smears. Sera from the blood of a number of adult and child patients was positive with respect to ornithosis antigen. Three associates of the arbovirus laboratory became infected with ornithosis during the work and were subjected to thorough clinical, serological and biochemical study, after which catamnestic observations were conducted for two years.

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1/2 023 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THE MORPHOLOGICAL CHARACTER OF CHANGES IN THE FEMORAL HEAD AFTER
REDUCTION OF CONGENITAL DISLOCATION -U-
AUTHOR-(03)-GONCHAROVA, M.N., MIRZYEVA, I.I., YAROSHEVSKAYA, YE.N.
COUNTRY OF INFO--USSR
SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 2, PP 10-15
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MORPHOLOGY, NECROSIS, ORTHOPEDIC SURGERY, TISSUE REGENERATION,
BONE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1983/1405 STEP NO--UR/9115/70/000/002/0010/0015
CIRC ACCESSION NO--AP0054269
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054269

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGES WHICH DEVELOP IN THE FEMORAL HEAD IN COMPLICATED COURSE OF CLOSED, LESS FREQUENTLY OPEN, REDUCTION OF CONGENITAL DISLOCATION OF THE HIP WERE SUBJECTED TO HISTOLOGICAL AND HISTOCHEMICAL STUDY. SECTIONS OF ARTICULAR CARTILAGE OF 34 FEMORAL HEADS AND 7 SOCKETS HAVE BEEN INVESTIGATED IN 37 CHILDREN AND ADOLESCENTS RANGING IN AGE FROM 3 TO 17 YEARS. IN PART OF CASES THE BONE TISSUE UNDERLYING THE ARTICULAR CARTILAGE HAS BEEN STUDIED. THE AUTHORS DISCLOSED NONSPECIFIC CHANGES OF ARTICULAR CARTILAGE OF REACTIVE CHARACTER AS MIGHT BE ENCOUNTERED IN A RANGE OF OTHER PATHOLOGICAL PROCESSES: FOCI OF NECROSIS AND NECROBIOSIS, CARTILAGINOUS TISSUE DEDIFFERENTIATION INTO FIBRILLAR CONNECTIVE TISSUE, AS WELL AS A REGENERATIVE REACTION IN THE FORM OF CARTILAGINOUS CELL PROLIFERATION. IN SOME CASES DISTURBANCES OF EPIPHYSEOGENESIS WERE OBSERVED AS THE RESULT OF CARTILAGINOUS CELL DEDIFFERENTIATION OF THE ENCHONDRAL GROWTH ZONE. A DEPENDENCE WAS FOUND BETWEEN THE NUMBER OF REPEATED REDUCTIONS AND DEGREE OF SEVERITY. THE RESULTS SUPPORT THE BELIEF THAT THE INJURIOUSNESS PROVOKING THE REACTION IN THE GIVEN CASE ARE THE ANTIPHYSIOLOGICAL CONDITIONS OF THE INGUINENTARY CARTILAGE EXISTENCE IN THE POSTOPERATIVE PERIOD. OF ALL THE KNOWN TERMS CHARACTERIZING THE CHANGES IN THE FEMORAL HEAD WHICH SOMETIMES DEVELOP AFTER REDUCTION, THE TERM "PATHOLOGICAL RECONSTRUCTION" APPEARS TO MOST PRECISELY DETERMINE THE NATURE OF THE PROCESSES WHICH TAKE PLACE.

UNCLASSIFIED

USSR

UDC 517.919

VALEYEV, K.G. and MISAK, V.V., Kiev

"Investigation of Vibrations of Nonlinear Systems"

Kiev, Prikladnaya Mekhanika, Vol 9, Vyp 2, Feb 73, pp 53-59

Abstract: In order to investigate the vibrations of nonlinear systems a system of differential equations of the n -dimensional vector with respect to time is set up. Solution of this system is discussed. The case of n pairs of imaginary roots is considered. A nonlinear system with two degrees of freedom is investigated, it is pointed out how to determine the stability when polar coordinates are used; conditions for the existence of stationary solutions for this system are determined.

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1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--INTESTINAL MICROFLORA AND AUTOIMMUNE REACTIONS IN CHRONIC COLITIS
-U-
AUTHOR--(03)-ATSEROVA, I.S., MAKIYEVSKAYA, S.YE., MISAUTOVA, A.A.
COUNTRY OF INFO--USSR
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 5, PP 36-39
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PEDIATRICS, COLON, DIGESTIVE SYSTEM DISEASE, ANTIBODY,
IMMUNOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/1738 STEP NO--UR/0504/70/042/005/0035/0039
CIRC ACCESSION NO--AP0135314
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135314

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SPECIOUS SPECIFIC AND QUANTITATIVE COMPOSITION OF THE FECAL MICROFLORA IN 53 CHILDREN WITH VARIOUS CHRONIC DISEASES OF THE INTESTINE (CHRONIC COLITIS, NONSPECIFIC ULCEROUS COLITIS, FUNCTIONAL DYSKINESIA OF THE INTESTINE) WAS STUDIED. CHANGES IN THE MICROBAL FLORA OF THE FECES WERE REVEALED IN THREE FOURTHS OF THE PATIENTS AND WERE OF A STEADY NATURE INSPITE OF THE IMPROVEMENT OF THE CLINICAL COURSE OF THE DISEASE. CHANGES IN THE SPECIOUS SPECIFIC COMPOSITION OF THE FECAL MICROFLORA WERE ALMOST SIMILAR IN ALL THE THREE GROUPS OF PATIENTS: DYSBACTERIOSIS INCIDENCE AND EXTENT OF ITS MARKEDNESS WERE DIFFERENT IN ALL THE GROUPS AND WITHIN EACH GROUP OF PATIENTS. THERE WAS A DEFINITE RELATIONSHIP BETWEEN THE NATURE OF THE FECAL MICROFLORA AND THE ACCUMULATION OF ANTIMICROBAL AND ANTIINTESTINAL ANTIBODIES IN THE BLOOD SERUM IN ALL THE THREE GROUPS AND PATIENTS, FROM FUNCTIONAL DYSKINESIA TO NONSPECIFIC ULCEROUS COLITIS.

FACILITY: VIRUSO-MIKROBIOLOGICHESKAYA LABORATORIYA AND TERAPEVTICHESKOYE OTD. MOSKOVSKOGO OBLASTNOGE N I KLINICHESKOGO INSTITUTA IM. M. F. VLADIMIRSKOGO.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--USE OF HIGH MOLECULAR WEIGHT POLYMERIC ADDITIVES IN REDUCING
PERMEABILITY OF GEOLOGICAL LAYERS -U-
AUTHOR-(03)-MIRZADZHANZADE, A.KH., MISCHEVICH, V.I., MAHEDOV, YU.G.
COUNTRY OF INFO--USSR
SOURCE--NEFT. KHOZ. 1970, 48(1), 25-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--AQUEOUS SOLUTION, AMIDE, QUARTZ, PETROLEUM EXTRACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/1956 STEP NO--UR/0093/70/048/001/0025/0028
CIRC ACCESSION NO--AP0133800

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133800

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FILTRATION OF AQ. SOLNS. CONTG. SMALLER THAN OR EQUAL TO 0.3PERCENT POLYACRYLAMIDE (I) THROUGH COLUMNS FILLED WITH QUARTZ SAND GRADUALLY REDUCED THE FILTRATION RATE (R), AND R VARIED INVERSELY WITH THE CONCN. OF I IN THE SOLNS. THE ADD. OF 20PERCENT CLAY TO SAND REDUCED R BY SIMILAR TO 50PERCENT; THE ADD. OF ONLY 0.3PERCENT I REDUCES R BY SMALLER THAN OR EQUAL TO 1000PERCENT. I SOLNS. ARE RECOMMENDED FOR OIL WELL FLOODING.

UNCLASSIFIED

USSR

UDC: 519.2

MISEVICHYUS, E.

"Integral Theorems With Large Deviations for Homogeneous Markov Chains"

Lit. mat. sb. (Lithuanian Mathematics Collection), 1972, 12, No 1, pp 195-198 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V49 [author's abstract])

Translation: Large deviations are studied for the distribution function of sums of random quantities joined into a Markov chain with positive ergodicity coefficient when the Yu. V. Linnik condition is imposed on the conventional distribution of a random quantity.

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- 11 -

USSR

MISEVICHYUS, E. V.

"Local Theorems with Great Deviations for Homogeneous Markov Chains"

Lit. mat. sb. [Lithuanian Mathematics Collections], Vol 11, No 3, 1971, pp 607-625, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V33 by the author).

Translation: Asymptotic expansions of great deviations and the "Linnik zone" for densities are produced for random quantites coupled into a homogeneous Markov chain with positive ergodicity coefficients in the case of existence of an arbitrary density and fulfillment of conditions similar to the conditions of Kramer and Linnik. Furthermore, the method of characteristic functions is used to estimate the function of concentration of the sum of the random quantities.

USSR

UDC 678.632'32'72.01:53

KACHULIS, A. N., MISEVICHYUS, P. P., ANDRUNAVICHENE, I. P., LEONOV'KEY, B. I.,
and BERLIN, A. A.

"The Effect of Stabilization and Thermal Treatment on the Ablation of Phenol-Formaldehyde Plastics"

Moscow, Plasticheskiye Massy, No 3, 1972, pp 53-56

Abstract: A study of the ablation stability and breakdown of phenol-formaldehyde plastics (PFP) stabilized with polymers with a system of conjugated bonds (PCB) was carried out. The effect of preliminary thermal treatment of a stabilized phenol-formaldehyde resin on its physical-mechanical and ablation properties was also investigated. The following stabilizers were used: polyacetylene, polyphenylenequinone, polystyrylphenylenequinone, polyphenyleneoxyquinone, polyquinone dioxide, and a polymer of *m*-phenylenediamine and bis-diazotized benzidine. In general, the stabilized PFP showed lower weight loss and fewer microdefects of the structure than the nonstabilized ones. The kinetics of ablation breakdown of both the stabilized and starting PFP, on the other hand, appeared to be identical. In an inert medium the ablation breakdown of PFP is slower than in an oxidizing medium, but the effectiveness of stabilizing additives is also lower. Thermal treatment of stabilized PFP is also effective only to 200°C in increasing the strength and ablation resistance of it.

USSR

MACHYULIS, A. N., et al., *Plasticheskiye Massy*, No 3, 1972, pp 53-56

stabilized with PCB. Higher temperatures lead to formation of cracks, weight loss and poorer physical-mechanical properties.

2/2

USSR

UDC 529.786

YEREMINA, N. M., MISHAKOV, G. A., PIKHTLEV, A. I., and RUDNEVSKIY, N. K.

"Method and Results of Measuring the Lorentzian Dislocation and Widening of Hyperfine Components of the Major Doublet of Rubidium Caused by Buffer Gas"

V Sb. "VII Ural'sk. Konf. po Spektroskopii, 1971. Vyp 1" [In the Collection "Seventh Ural Conference on Spectroscopy, 1971. No 1".], Sverdlovsk, 1971, pp 139-141 (from Referativnyy Zhurnal, No 10, Oct 72. 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue. Abstract No 10.32.549)

Translation: In basic elements of the quantum frequency standard based on rubidium vapors - absorption section, filter section, and spectral lamp - the fillers used are rubidium vapors and a buffer gas. For the analysis and investigation of characteristics of this type of standards, e.g. the parameter of quality and filtration of superfine components of the major Rb doublet, it is necessary to know the coefficient of dislocation and of widening of the rubidium lines caused by the buffer gas. A method is suggested for the investigation of indicated constants for the major doublet of rubidium. The coefficients of dislocations and of line widenings of the major doublet of rubidium (780 nm and 794.7 nm) were measured with a relative error of 15% for argon, xenon, nitrogen, and neon. The results of measurements are shown in a table. Two illustrations, one table, seven bibliographical references.

1/1

Veterinary Medicine

USSR

UDC 619:576.858.4

SIMONOVA, E. G., SKALINSKIY, Ye. I., UZYUMOV, V. L., and MISHCHANIN, V. A.
All Union Scientific Research Foot-and-Mouth Disease Institute

"Ontogenesis of Foot-and-Mouth Disease Virus (An Electron Microscope Study)"

Moscow, Veterinariya, No 9, 1971, pp 28-31

Abstract: The development of foot-and-mouth disease (FMD) virus in the epidermal layer of guinea pigs' paws was studied. A suspension of type A₂₂ virus adapted to these animals, in a dilution of 1:10 and a dose of 0.2 ml, was injected into the plantar surface of the paws, and material for study was extracted 6, 12, 17, 20, 24, 48, and 72 hours after infection. Extracts were fixed in a 1% solution of buffered glutaraldehyde, and then fixed in a 1% solution of osmic acid buffered with veronal acetate. The samples were washed with the original buffer, dehydrated in acetone, and polymerized at 60°C in 24-48 hr. Slices obtained on an ultramicrotome were contrasted with a saturated solution of uranyl acetate and lead salts by the Reynolds method and examined under an electron microscope. Guinea pig epidermis was treated and in the same manner infected with the same virus. A strain inactivated by heating was used as the control. The investigations established that formation

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USSR

SIMONOVA, E. G., et al., Veterinariya, No 9, 1971, pp 28-31

of the focus of infection begins on the 12th day after injection of virus in the cisternae of the endoplasmic reticulum in the horny layer of epidermis. In the course of its development, the virus destroys the membranes of the endoplasmatic reticulum, gradually extending the area of the infection. Electron microscope study of the ultrathin sections of the epidermis revealed the presence of full and empty particles of FMD virus 20-24 hours after infection.

2/2

- 63 -

USSR

UDC 576.851.45.097.22:615.334

LEBEDEVA, S. A., MISHAN'KIN, B. N., and SUCHKOV, YU. G., Rostov-on-Don Scientific Research Antiplague Institute

"Episome Resistance of Plague Microbes to Penicillins"

Moscow, Antibiotiki, Vol 17, No 10, 1972, pp 908-910

Abstract: In a mixture of penicillin-resistant *Sh. newcastlei* (donor) and penicillin-sensitive *P. pestis* (recipient) incubated for 3 hrs., conjugation and recombination results in transfer of an R-episome with a frequency of $n \times 10^{-5}$. The recombinant plague bacteria become resistant to benzylpenicillin, ampicillin, cephorin, cephrine, metycillin, oxacillin, cloxacillin, and ptopen. Donors, recipients, and recombinants are sensitive to merthiolate, and therefore, the episome in question has no gene resistant to Hg ions. The penicillin-resistance factor is eliminated by acriflavine in 1% of the cases and, upon incubation of the recombinants with other sensitive strains of plague bacteria, it is transferred to the latter with a frequency of $n \times 10^{-3}$. Since acquisition of resistance to penicillins is accompanied by acquisition of the ability to produce beta-lactamase (a highly active extracellular penicillinase) and since loss of one property is accompanied by loss of the other, it is concluded that beta-lactamase is the main factor determining resistance to penicillins.

1/1

USSR:

SHEYNISLEYGER, VOL'F BENTSIONOVICH, MISEZHNIKOV, GEORGIY SOLOMONOVICH, and
LIFANOV, PETR SERGEYEVICH

"UHF-Quantum Amplifiers (Masers)," (Kvantovyye Usiliteli SVCh [Mazeryl]),
Moscow, Izd-vo "Sovetskoye Radio," 1971, 9,000 copies, 432 pages

Abstract: The book is a monograph devoted to quantum UHF-maser paramagnetic amplifiers, the application of which makes it possible to achieve extremely high sensitivity in radio receiving devices operating in the UHF range. Along with a presentation of the physical bases of operation of such amplifiers, the methods for calculating, designing, and experimentally researching traveling wave masers and multiresonant masers, and also the problems of using masers in systems for space communications, radio astronomy, and radar are examined in detail. The necessary information concerning the main components of maser devices which include: paramagnetic crystals, delay systems, resonators, magnets with superconducting windings, low-temperature ferrites, cryostats, closed-cycle refrigerant equipment based on helium and intermediate temperatures, is presented.

The book is intended for engineers and scientific workers who are specializing in the field of development and application of low-noise UHF amplifiers,
1755

USSR

SHTEYNSHLEYGER, VOL'F BENTSIONOVICH, et al., "UHF Quantum Amplifiers (Masers)," (Kvantovyye Usiliteli SVCh [Mazery]), Moscow, Izd-vo "Sovetskoye Radio," 1971, 9,000 copies, 432 pages

low-temperature technology, and quantum electronics. The book may also be useful to instructors, aspirants, and students of advanced courses of the corresponding specialities. The book has numerous illustrations, figures, and 425 citations.

The table of contents is as follows:

	page
Foreword	3
From the authors	4
Chapter 1. Physical Fundamentals of Operation of Quantum Paramagnetic Amplifier (Maser)	7
1.1.1 Probability of Forced Transition	9
1.1.2 Action of Electromagnetic Oscillations in a System of Paramagnetic Particles	15
1.3 Energy Levels and Probability of Forced Transitions in Paramagnetic Crystals	31

2/5

USSR:

SHTEYNHLEYGER, VOL'F BENTSIONOVICH, et al., "UHF Quantum Amplifiers (Masers)," (Kvantovyye Usiliteli SVCh [Mazery]), Moscow, Izd-vo "Sovetskoye Radio," 1971, 9,000 copies, 432 pages

1.4. Fundamental Maser Characteristics	39
1.5. The Effect of Strong Signals on the Maser	56
1.6. Maser Noise	69
1.7. Paramagnetic Crystals for Masers	76
Chapter 2. Traveling Wave Masers (TWM)	114
2.1. Layout of Traveling Wave Maser	114
2.2. Delay Systems for TWM	117
2.3. Comb Delay System	125
2.4. Meander Line and Other Delay Systems	180
2.5. Widening the Pass Band of Traveling Wave Masers	191
2.6. Method of Experimenting When Developing TWM	200
2.7. Information Concerning Developed TWM	207
Chapter 3. Multiresonant Masers	218
3.1. Computing the Parameters of Multiresonant Masers	219

3/5

USSR:

SHTEYNISLEYGER, VOL'F BENTSIONOVICH, et al., "UHF Quantum Amplifiers (Masers)," (Kvantovyye Usiliteli SVCh [Mazeryl]), Moscow, Izd-vo "Sovetskoye Radio," 1971, 95000 copies, 432 pages

3.2. Maser Resonators	255
3.2. Problems of Developing Multiresonant Masers	274
Chapter 4. Superconducting and Permanent Magnets and Low Temperature Ferrites for Masers	289
4.1 Uncooled and Cooled Permanent Magnets	290
4.2 Magnets with Superconducting Windings	299
4.3 Ferrite Devices for Masers	314
Chapter 5. Elements of Cryogenic Technology	324
5.1 Coolants for Masers	325
5.2 Cryostats	331
5.3 Refrigerant Machines for Masers	344
5.4 Linking Cooled Elements of a Maser with Refrigerant Closed-Cycle Machine	356
4/5	

USSR

SHTEYNShLEYGER, VOL'F BENTSIONOVICH, et al., "UHF Quantum Amplifiers (Masers)," (Kvantovyye Usiliteli SVCh [Mazeryl]), Moscow, Izd-vo "Sovetskoye Radio," 1971, 9,000 copies, 432 pages

Chapter 6. Some Problems of Utilizing Masers in Radio Receiving Systems	363
6.1 Masers in Space Communication Systems	363
6.2 Concerning the Use of Masers in Radio Astronomy	376
6.3 Maser Protection for Pulse Radar Operation	389
6.4 Measuring the Noise Temperature of a Maser and Radio Receiving Systems Containing a Maser	395
Appendix	
Energy Levels and Matrix Elements of Junctions in Paramagnetic Crystals Used in Masers	409
Bibliography	414

USSR

UDC: 621.375.826

MISEZHNIKOV, G. S., MUKHINA, M. M., and SHTEYNSHLEYGER, V. B.

"Traveling-Wave Maser in the 5-Cm Range With Broad Pass Band"

Moscow, Pribory i Tekhnika Eksperimenta, No. 3, 1971, pp 138-139

Abstract: A traveling-wave maser amplifier can be given a broader pass band by increasing the linear amplification through increasing the group velocity wave delay factor. This article describes such a maser operating in the 5-cm wavelength range. The delay system is of the ctenoid type, with asymmetrical dielectric filling, and the delay factor is 300 in a pass band of 200 MHz. The active material is ruby, with the crystal optical axis at an angle of 90° to the constant magnetic field. The paramagnetic amplification before introduction of the magnetic field detuning at a temperature of 4.2° K is 90 db for a delay system length of 110 mm. A sketch of the delay system is given, and the frequency characteristic of the amplifier with two-stage magnetic field detuning and without introducing magnetic field detuning is plotted. The authors express their gratitude to A. I. Bykovskiy for his assistance with the tests and with tuning the amplifier.

1/1

- 146 -

USSR

UDC 621.375:530.145.6

SHTEYNHLEYGER, V. B., MISEZHNIKOV, G. S.

Kvantovyye usiliteli SVCh (mazery) (Microwave Quantum Amplifiers (Masers)), Moscow, Soviet Radio Press, 1971, 431 pp, ill., 1 r. 93 k. (from RZh-Radio-tekhnika, No 4, Apr 71, Abstract No 4D171K)

Translation: This book is a monograph devoted to paramagnetic quantum amplifiers -- microwave masers -- application of which has made it possible to achieve limiting high sensitivity of radio receivers in the microwave range. Along with the discussion of the physical principles of operation of such amplifiers, methods of calculating, design and experimental investigation of traveling wave masers and multiresonator masers and also the problems of applying masers in space radio communications systems, radio astronomy and radar are investigated. The required information about the basic components of masers is presented: paramagnetic crystals, decelerating systems, resonators, magnets with superconducting windings, low-temperature ferrites, cryostats, closed cycle coolers for helium and intermediate temperatures.

1/1

USSR

UDC 621.373:535(206.3)

MISHAKOV, V. G., TIBILOV, A. S., and SHUKHTIN, A. M.

"Generation of Radiation in Na-H₂ and K-H₂ Mixtures During Pulsed Introduction of Metal Vapors into a Gas-Discharge Plasma"

Leningrad, Optika i Spektroskopiya, Vol XXXI, No 2, Aug 71, pp 324-325

Abstract: Generation of radiation in Na-H₂ and K-H₂ mixtures was produced in cold discharge tubes by the method of pulsed introduction of metal vapors into a gas-discharge plasma. This method, which eliminates the need for a heating element, involves the transmission of two current pulses through a discharge tube on the wall of which is a metallic layer of sodium (Na) or potassium (K). The first current pulse strips metal atoms from the walls of the tube and creates mixtures of Na-H₂ or K-H₂. The metal vapors thus obtained are excited by the second current pulse, and radiation is generated. It was discovered that when the length of the first current pulse was increased, the generation of radiation on its trailing edge increased greatly in length, achieving a length of 300 microseconds. Several interesting new facts were established experimentally about generation of this type.

1/1

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SEARCH FOR THE DIRAC MONOPOLE AT THE 70 GEV I.P.H.E. PROTON
SYNCHROTRON -U-
AUTHOR--(05)-GUREVICH, I.I., KHAKIMOV, S.KH., MARTEMIANOV, V.P., MISHAKOVA,
A.P., OGURTZOV, V.V.
COUNTRY OF INFO--USSR
SOURCE--PHYS. LETTERS (NETHERLANDS) VOL. 318, NO. 6, P. 394-6 (16 MARCH
1970)
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2/2 017

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PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0111725

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DESCRIBES A SEARCH FOR THE DIRAC MONOPOLE AT THE 70 GEV I.P.H.E. PROTON SYNCHROTRON. IT WAS FOUND THAT THE UPPER LIMIT OF THE MONOPOLE PRODUCTION CROSS SECTION WAS $\Sigma (90 \text{ PRIME}^0 \text{ SUB}^0)$ SMALLER THAN OR EQUAL TO 1.5 TIMES 10 PRIME NEGATIVE 41 CM PRIME² FOR M SUBQ SMALLER THAN OR EQUAL TO 5 M. FACILITY: I. V. KURCHATOV INST. ATOMIC ENERGY, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 576.851.45.097.22:615.332(CHLORAMPHENICOLUM)

LEEDEVA, S. A., and MISHAN'KIN, B. N., Rostov-on-Don Scientific Research
Antiplague Institute, Rostov-on-Don

"Inactivation of Chloramphenicol by Plague Bacteria With Episome Resistance
to the Antibiotic"

Moscow, Antibiotiki, Vol 17, No 9, Sep 72, pp 806-808

Abstract: On conjugation of plague bacteria with a strain of E. coli resistant to chloramphenicol and also to streptomycin, tetracycline, and neomycin, the R-factor of the E. coli was transferred to the P. pestis with the result that an episomic resistance of the latter to chloramphenicol developed. It was established in tests in which an indicator strain of staphylococci was used that the modified P. pestis strains (recombinants) inactivated chloramphenicol. This effect could be ascribed to the action of chloramphenicolacetylase, the synthesis of which was associated with the presence of the R-factor. It was not exerted by the unmodified recipient strains. Chloramphenicol was inactivated at an equal rate by live cultures of the donor strain of E. coli and those of a P. pestis recombinant. Killing of the cultures by boiling destroyed their capacity to inactivate chloramphenicol.

1/1

- 28 -

Antibiotics

USSR

UDC 576.851.45.098.31

MISHAN'KIN, B. N., RYZhKO, I. V., and GRIGOR'YAN, E. G.

"Study of Penicillinase Activity in Microbes of Plague, Pseudotuberculosis, and Pasteurella X"

Moscow, Antibiotiki, No 7, 1973, Vol 18, pp 621-624

Abstract: For almost 20 years the fact that the plague microbe has a high sensitivity to benzylpenicillin in vitro but yet this antibiotic is ineffective in curing plague has needed explanation. It may be assumed that the primary reason for this is that the enzyme system of the microbe or of the animal tissue has characteristics which neutralize the activity of the penicillin. White mice were used in an attempt to determine the penicillin activity of the plague microbe in vitro and in vivo; the investigation was also made for the closely-related microbes of pseudotuberculosis and Pasteurella X. Of the three species, only Pasteurella X possessed penicillinase activity closely associated with the resistance to penicillin. Attempts to induce in vivo penicillinase activity in the plague microbe strain EV were not successful. It may be assumed that the reason the penicillin is not effective in treating experimental plague in mice is related to acylase in either the microbe or in the macroorganism.

1/1

Microbiology

USSR

UDC 576.851.45.097.22:615.33

MISHAN'KIN, B. N., DOMARADSKIY, I. V., and RYSHKO, I. V., Rostov-on-Don
Scientific Research Antiplague Institute

"Inactivation by Phosphorylation of Aminoglycoside Antibiotics by the EB
Strain of Pasteurella pestis Carrying an Episome of Multiple Drug Resistance"

Moscow, Antibiotiki, No 12, 1971, pp 1081-1085

Abstract: The EB-R₆ strain of P. pestis to which an episome of multiple drug resistance was transmitted from E. coli (strain 4018/62 R₆) was able to inactivate the aminoglycoside antibiotics streptomycin, monomycin, kanamycin, and neomycin. This did not occur when extracts from the original EB strain or a variant with chromosomal resistance to the antibiotics was used instead of extracts from EB-R₆ cells. To test the assumption that phosphorylation was the cause of inactivation of the antibiotics, antibiotics were treated with 1 mg of alkaline phosphatase. Some 50% of the activity of kanamycin, monomycin, and streptomycin and 20% of that of neomycin were restored after 18 hours of incubation at 37°C.

1/1

Epidemiology

USSR

UDC 576.858.25.01(476)

SAMOYLOVA, T. I., VOTYAKOV, V. I., MISHAYEVA, N. P., KHOD'KO, L. P.,
FEDORCHUK, L. V., VOINOV, I. N., and DANILOVA, G. M., Belorussian Institute of
Epidemiology and Microbiology, Minsk

"Detection of Uukuniyemi Virus in the Belorussian SSR"

Moscow, Voprosy Virusologii, No 1, 1973, pp 111-112

Abstract: A strain of Uukuniyemi virus, named Belovezhskiy-Uukuniymi-302, was isolated for the first time in 1970-1971 in Bretskaya Oblast, Belorussian SSR from female Ixodes ricinus. The virus belonged to the ectromelia group, passed through 35-mm Seitz filters without significant titer changes, and apparently the virions had a supercapsular lipoprotein membrane. The virus was highly pathogenic to newborn white mice, much less so to 4-5 gm mice, and nonpathogenic to adult guinea pigs and white rats. Complement-fixation reactions with several specific sera confirmed that this virus belongs to the Uukuniyemi group. Apparently the Belovezhskiy microfocus from which the virus was obtained is part of an extensive focus spreading from the Baltic Sea south to Czechoslovakia and western Ukrainian SSR.

1/1

Acc. Nr: **110049897** Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

UR0020

104339v Coupling of reactions resulting from hydrogen transfer through the catalyst. Gryaznov, V. M.; Smirnov, V. S.; Ivanova, L. K.; Mishchenko, A. P. (Univ. Druzhby Nar., im. Lumumby, Moscow, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(1), 144-7 [Phys Chem] (Russ). A dehydrogenation reaction was performed in a Pd tube (Pd-membrane catalyst) and the evolved H, transported through Pd to the outside, became involved in a hydrogenation reaction with unsatd. hydrocarbons. Dehydrogenation of butene to butadiene took place at 380° on a Pd-membrane catalyst at a rate 2000 times higher than with the reaction performed on the industrial K-10 catalyst at 600°. Simultaneously with the above dehydrogenation, the transported H was consumed by a hydrogenation of C₆H₆ and, as the result, the dehydrogenation did not give *trans*-2-butene as a byproduct. HMJR

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Kuliyev, T. A., Huseini, Ye. R., Faygin, V. N.	Electron-beam Light Modulator	234
Musiel, Ye. R., Pary- Kin, V. N., Solomatin, V. S., Bagikov, V. B.	Internal Modulation of a Gas Laser	239
Pankratov, V. M., Pet- rov, T. V., Ponomarev, I. P., Fomichev, H. N.	Visible and Infrared Light Modulator Based on a Lithium Metaniobate Crystal with 90° Orientation	248
Pankratov, V. M., Petrova, T. V., Ponomareva, I. P., Fomichev, N. N.	Wide Band Light Modulator Based on a Lithium Metaniobate Crystal with 90° Orientation	253
Nardich, L. N.	Phase Relations of the Synchronous Mode of Laser Emission with Modulated Dielectric Constant of the Resonator	258
Derjugin, I. A., Solomko, A. A.	Nonlinear Distortions in Microwave Modulators of Laser Emission	262
Kovaleva, M. M., Nikolayev, I. V.	Utilization of Gallium Arsenide Crystals for Modulation of Radiation with a Wavelength of $\lambda = 10.6$ microns	268
Amelko, V. D.	Some Types of Faraday Modulators and Their Nonlinear Distortions	273
Trubko, V. D.	Method of Simultaneous Determination of the Frequency Characteristics of the Photoreceiver and Faraday Modulator	278
Nashchukin, H. P., Ostapenko, Yu. L.	Application of a Refraction Acoustic Cell for Synchronization of the Pulse Laser Emission	280
Protopov, Yu. D., Kozlov, Ye. G.	Wideband Light Detector	283
Petrov, A. S., Smolkin, N. P.	Sensitivity and Inertia of a Photodiode Light Receiver with Parametric Amplifier	293
Chernykh, A. S., Tuklov, G. I.	High-Frequency and Low Inertia Photoreceiver Light Detector with Superhigh-Frequency Bias ...	299

TECHNICAL TRANSLATION

ARM | FSTC/HT-24-2013-72

24 Nov '72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV,
SEPTEMBER 1968

FOREIGN TITLE: ПРОБЛЕМЫ ПЕРЕДАЧИ ИНФОРМАЦИИ ЛАЗЕРНЫМ ИЗЛУЧЕНИЕМ

AUTHOR: I. A. DERUGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY
IRENI T.G. CHEVCHENKO

Translated for FSTC by ACS1

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- 1111 Page -

USSR

UDC 621.538.669

SHVETS, T. M., IVANOVA, L. YU., MEL'NICHENKO, Z. M., MISHCHENKO, E. G., and
NATANSON, E. M., (DECEASED), Institute of Colloidal and Water Chemistry, AN
Ukr SSR

"Magnetic Properties of Highly Disperse Iron-Cobalt-Nickel Alloy Powders"

Kiev, Akademiya Nauk Ukr SSR, Poroshkovaya Metallurgiya, No 7, Jun 72,
pp 71-75

Abstract: Experimental results of a study of the effect of various electrolysis parameters (electrolyte concentration and acidity, cathode current density, cathode material, and the presence of additives) and of the alloy composition on the magnetic properties of highly disperse ternary iron-cobalt-nickel alloys are presented. The analysis shows that the most significant effect on the magnetic properties is produced by electrolyte concentration. Thus, by increasing concentration from 50 to 500 gr/l (iron, cobalt, and nickel chlorides) the coercive force drops from 800 to 300 oe, and this is related to significant coarsening of alloy particles.

1/1

USSR

UDC: 621.376.56

ALEKSANDROV, A. M., BATETSKIY, N. V., MISHCHENKO, I. N., PODD'YAKOVA, V. N.,
SAFRONOV, Yu. S.

"A Device for Shaping Series-Coded Signals"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 5, Feb 71, Author's Certificate No 293292, Division G, filed 21 Oct 68,
published 15 Jan 71, p 177

Translation: This Author's Certificate introduces a device for shaping series-coded signals of length N . The device contains shift registers and cadence pulse generators. As a distinguishing feature of the patent, the number of digital places in the shift register is reduced by connecting two shift registers in a matrix circuit, one of the registers consisting of n digital places, while the other consists of N/n places. The output of each of the digital places in the second register is connected to those inputs of digital places in the first register where the "ones" of the code to be generated must be recorded for a given group of symbols of length n . The first register operates on a cadence frequency of f , and the second on a frequency of f/n .

1/1

Hydraulic and Pneumatic

USSR

UDC 532.516

TSEPILEVICH, V. G., UDLER, E. I., MISHCHENKO, L. A.

"Hydrodynamic Boundary Layer at an Enclosed Oscillating Plane"

Sb. nauch. tr. Tomsk. inzh.-stroit. in-t (Collection of Scientific Works of Tomsk Structural Engineering Institute), 1971, Vol. 17, pp 116-124 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3B673)

Translation: The second Stokes problem on the motion of a viscous liquid close to an unbounded plane wall and making rectilinear harmonic oscillations in its plane is extended to the case when another plane wall makes harmonic oscillations of a different frequency than amplitude not coinciding in phase in a parallel plane at a certain distance. The solution of the Navier-Stokes equation for a layer of viscous liquid between the oscillating plane walls is sought by the Fourier method. It is shown that the presence of a parallel plane surrounding the flow does not change the phase shift in comparison with the case of an unenclosed flow; however the velocity attenuates across the cross section more intensively, especially when the parallel plane walls oscillate in counter-phase. Ya. S. Khodorkovskiy.

1/1

MISHCHENKO, L. I.

NP

UDC 613.647:612.8.016.426

JPRS 88508
21 November 1973

EFFECT OF AN ELECTROMAGNETIC FIELD IN THE METER RANGE ON THE
NERVOUS SYSTEM OF ANIMALS, BASED ON PHYSIOLOGICAL AND BIOCHEMICAL STUDIES
Article by N. N. GONDARENKO and L. I. MISHCHENKO, Institute of Labor
Hygiene and Vocational Diseases, Moscow, Glavvostokhiznitsa 1, per. Proletarskaya
Zastevaniya, Pustan, No 7, 1973, pp 22-24

Multiple experiments and clinical studies indicate the high sensitivity of the human and animal nervous system to the effects of an electromagnetic field in the radio frequency band (M. S. Tsipulskaya and Z. V. Gordonova, A. I. Ivanova, P. P. Fokulova, I. A. Kiselevskaya et al.). It should be noted that thus far there is no clear concept of the difference in effect of magnetic and electrical fields on the body. Only the works of K. V. Nizomova clarify the effects of electrical and magnetic fields of super-high frequency on the functional state of the nervous system.

The object of this work -- to study the character of the biological effect of meter-band electrical and magnetic fields to clarify the specific effect of their effect on the functional state of the nervous system of animals.

The study employed 260 rats in a chronic experiment (lasting 4 months) at different field intensities. The action of magnetic and electrical fields was studied primarily at nonthermogenic voltages at one energy level (800 V/m \pm 2 s/m, 200 V/m \pm 1 s/m), which allowed to a certain degree the comparison of results of the action of electromagnetic field components. The experimental animals were divided into five groups: the first and second groups were subjected to an electrical field strength of 800 and 200 V/m, the third and fourth, to a magnetic field with an intensity of 2 and 1 s/m respectively; the fifth group consisted of control rats.

The indicators of the functional state of the CNS were determined by the defensive conditioned reflex method (according to I. S. Alexandrov and M. G. Tselina) and summation of subthreshold impulses (Speranskij). Also studied were separate aspects of carbohydrate and nitrogen metabolism (content of glycogen, glucose, urea, pyruvic acid, pyruvate ammonia) and the acetylcholine system (its amount and the acetylcholinesterase activity).

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Radiobiology

USSR

UDC 612.013.7.014.426

MISHCHENKO, L. I., Kharkov Institute of Labor Hygiene and Occupational Diseases

"Effect of a Superhigh-Frequency Electromagnetic Field on Energy Metabolism in Animals"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 8, 1972, pp 48-50

Abstract: Oxidative phosphorylation and levels of ATP, ADP, AMP were investigated in rats exposed for 1 hour daily for 15 to 20 days to an electric (800 v/m) or magnetic (10 a/m) field. Exposure to the electric field resulted in decreased intensity of oxidative phosphorylation in the heart and brain tissues of the animals, whereas exposure to the magnetic field intensified the process in these tissues. The content of AMP, ADP and ATP increased in the heart tissues of both groups of animals but was the same as controls in brain tissue. These shifts in metabolism may account for the functional disturbances of the nervous and cardiovascular systems observed in human beings chronically exposed to superhigh-frequency electromagnetic fields.

1/1

USSR

UDC 577.1:612.015.33:538.6

MISHCHENKO, L. I., FRENKEL', S. R., Khar'kov Scientific Research Institute of the Hygiene of Labor and Occupational Diseases

"Variations in Nitrogen Compounds in the Nerve Tissues of Animals Under the Effect of a UHF Electromagnetic Field"

Kiev, Ukrains'kiy Biokhimichnyi Zhurnal, Vol 44, No 4, 1972, pp 483-486

Abstract: A study was made of the preformed ammonia, glutamine, glutamate and nitrogen amide content of proteins, the AMP content and the activity of AMP deaminase in the brain of rats subjected to UHF electric and magnetic fields.

It was found that under the effect of an electric field the ammonia content rises. This can be caused to a significant degree by a drop in the nitrogen amide content in the proteins of the brain tissue and the activity of the AMP deaminase. The effect of the magnetic field is characterized by a drop in the ammonia and glutamine content and an increase in the AMP content and the nitrogen amide in the brain proteins.

1/1

- 81 -

USSR

UDC 621.373.531

MILYAYEV, N. A., RUSSKIKH, N. P., MISHCHENKO, N. A.

"Statistical Properties of Some Basic Parameters of D901 Silicon Varicaps and Their Effects on the Output Characteristics of a Capacitive Parametron"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1970, vyp. 215, pp 116-135 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G203)

Translation: The distribution law of the magnitude of the capacitance and Q-factor of D901 varicaps is investigated for fixed values of the bias voltage. It is demonstrated that the distribution law of the parameters is close to normal in the entire voltage and frequency operating range at temperatures from 25 to 120° C. The basic characteristics of the distribution law are obtained: the general mean with fiducial limits, the mean square deviation, and so on. The amplitude and phase variations of the capacitive parametron caused by variations of the basic parameters of the varicaps are defined. The bibliography has 4 entries.

1/1

- 130 -

USSR

UDC: 681.333

KOSHEVOY, A. A., STEKLOV, V. K., MISHCHENKO, R. K., MANZHULO, A. P.

"A Device for Modeling Automatic Control Systems"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 36, Dec 72, Author's Certificate No 360673, Division G, filed 4 Jan 71, published 28 Nov 72, p 126

Translation: This Author's Certificate introduces a device for modeling automatic control systems which contains in addition to a model of an automatic control system operational amplifiers, a nonlinearity module, and a model of system sensitivity. As a distinguishing feature of the patent, the device is simplified by connecting the input of the nonlinear module of the automatic control system model to the inputs of two parallel-connected operational amplifiers with limitation of the positive and negative parts of the input signal. The outputs of these operational amplifiers are connected through an adder to the input of one of the two parallel-connected amplifier units of the system sensitivity model.

1/1

USSR

UDC 62-503.53-501.14

STEKLOV, V. K., MISHCHENKO, R. K., KOSHEVOY, A. A., MANZHULO, A. P.

"A Tracking System With Nonlinear Correction"

USSR Author's Certificate No 318907, filed 23 May 70, published 28 Jan 72
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9,
Sep 72, Abstract No 9A187 P)

Translation: The invention relates to the field of automatic control and can be used in tracking systems where nonlinearity of the backlash type is undesirable. The conventional tracking system is made up of a preamplifier, power amplifier, motor with speed reducer, control object connected in series and covered by feedback, and a relay element connected through an amplifier and differentiating element to the input of the preamplifier. The proposed system also contains a model of a power amplifier with a motor. This model is connected to the input of the power amplifier in the tracking system. The input of the model is connected to the output of the preamplifier, and the motor is connected through a converter to a subtractor whose second input is connected to the output of the relay element, while the subtractor output is connected

1/2

USSR

STEKLOV, V. K. et al., USSR Author's Certificate No 318907

to the input of the power amplifier. This improves the accuracy of the tracking system by completely linearizing linearity of the backlash type in the case of slowly changing controlling actions and by eliminating the static error.

2/2

- 21 -

USSR

UDC 62-501.7-501.12:621.3.089.52

KOSHEVOY, A. A., STEKLOV, V. K., MANZHULO, A. P., MISHCHENKO, R. K.

"A Device for Determining the Sensitivity of Nonlinear Automatic Control Systems"

USSR Author's Certificate No 317046, filed 25 Jun 70, published 10 Jan 72
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9,
Sep 72, Abstract No 9A179 P)

Translation: The proposed device relates to the field of automatic regulation and control and can be used for determining sensitivity functions in automatic control systems containing nonlinear links with nonlinearity of the saturation type. Devices are known for experimental determination of functions [of sensitivity] of the dynamic characteristics of nonlinear automatic control systems to variations in parameters: e. g., a device which realizes the structural method of analysis of the sensitivity of nonlinear systems. Such devices contain a model of the system with a nonlinear element, and a sensitivity model of the system with linear elements. However, such devices are characterized by difficulty of hardware realization of the partial derivative of the output of the nonlinear

1/2

USSR

KOSHEVOY, A. A. et al., USSR Author's Certificate No 317046

element with respect to its input. In the proposed device, the input of the nonlinear element in the model of the system is connected to the input of a linear amplification element in the sensitivity model of the system through two parallel-connected operational amplifiers -- one with clipping of the positive part of the input signal, and the other with clipping of the negative part. The amplitude of the compensation signal arriving at the inputs of the operational amplifiers is equal to the saturation level, and the gain of the linear amplification element in the sensitivity model of the system is equal to the gain of the linear part of the nonlinear element in the model of the system. This design simplifies the hardware realization of the device and improves its reliability.

2/2

- 14 -

USSR

UDC: 8.74

MISHCHENKO, V. A.

"Using the Signum Function to Reproduce Piecewise-Linear Relations of Arbitrary Type"

Minsk, Teoriya i primeneniye mat. mashin--sbornik (Theory and Application of Mathematical Machines--collection of works), Belorussian University, 1972, pp 7-11 (from RZh-Kibernetika, No 5, May 73, abstract No 5V809 by the author)

Translation: The paper discusses one of the possible methods of representing selective functions on the basis of signum functions. The availability of such a representation enables reproduction of piecewise-linear relations of arbitrary form with breaks at the points of juncture. Two theorems which validate the chosen representation are proved.

The proposed apparatus can be used to simplify the program and cut down on machine operations in digital computer work, and also is convenient for analytical calculations.

1/1

- 108 -

USSR

2
PASECHNIK, M. V., KORZH, I. A., KASHUBA, I. Ye., MISHCHENKO, V. A., PRAVDIVYY, N. M., and SANZHUR, I. Ye., Institute of Physics of the Academy of Sciences Ukrainian SSR

"Study of the Elastic Scattering of Neutrons in the 0.3-4.1 Mev Energy Region by Ti and Cr Nuclei Using the Optical Model of the Nucleus"

Moscow, Yadernaya Fizika, Vol 11, No 5, May 70, pp 958-966

Abstract: The angular distributions of neutrons elastically scattered by Ti and Cr nuclei were measured over the angles 20-145° for neutron energies 2, 2.5, and 3 Mev, and data are given on the polarizing capacity of these nuclei for neutron energies of 1.5 and 2.0 Mev. The data are compared with the angular distributions of elastically scattered neutrons and with polarization occurring under elastic scattering as calculated on the basis of the six-parameter optical model of the nucleus. The purpose of this comparison was to make a systematic study of the variation with energy of the parameters of the optical potential, which function describes the interaction between the neutron and the nucleus. The values of the optimal parameters V_c and W_c were obtained by a least-squares fitting of data on the angular distributions of elastically scattered neutrons.

1/2

USSR

PASECHNIK, M. V., et al, Yadernaya Fizika, Vol 11, No 5, May 70, pp 958-966

A comparison of calculated and experimental total cross sections showed satisfactory agreement between the two. The values of the optimal parameters of the optical model were calculated by a three-parameter analysis; the forms of the angular distributions calculated by the three-parameter variation method did not greatly differ from the angular distributions calculated with a two-parameter variation. This is said to indicate that the parameters of the optical potential most sensitive to the magnitude and form of the angular distributions are the values of the real and imaginary parts of the central potential.

2/2

- 63 -

USSR

UDC: 669.721.042.26

MISHCHENKO, V. D., MIKEL'SON, A. E.

"Immersible Electromagnetic Pump for Magnesium Alloys"

MGD v Metallurgii i Liteyn. Proiz-ve [MHD in Metallurgy and Foundry Production -- Collection of Works], Kiev, 1972, pp 119-122 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G201, by G. Svodtseva).

Translation: An immersible electromagnetic pump, model KEMN-3M, allows the ingots of Mg alloys to be poured in all necessary sizes, since the delivery of the pump can be varied from 0 to the maximum value at the moment of tapping. The economic effect of the use of this pump at one plant was over 60,000 rubles per year. Installation of the pump eliminated the operation of pump startup and made it possible to increase the productivity of melting and pouring units. 3 figures, 3 biblio. refs.

1/1

USSR

UDC: 669.1/.8.042.62

MISHCHENKO, V. D., STEBLOVSKIY, I. A., STETSENKO, V. I.

"Dosing of Liquid Metal During Pouring of Ingots"

MGD v Metallurgii i Liteyn. Proiz-ve [MHD in Metallurgy and Foundry Production -- Collection of Works], Kiev, 1972, pp 217-220 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G149, by G. Svodtseva).

Translation: A combined automated foundry system, consisting of an electro-magnetic pump, liquid metal level measurer for the crystallizer, metal level regulator and magnetic amplifier, has passed industrial testing in the pouring of ingots. The level was maintained automatically throughout the entire casting period. Its fluctuations did not exceed ± 1.5 mm. Pouring of ingots using the automatic system allowed a decrease in crystallizer height of 35 mm (MA8 alloy, ingot diameter 370 mm), leading to a reduction in cavity depth to 50 mm. 3 figures.

1/1

- 19 -

Foundry

USSR

UDC 669.721

BONDAREV, B. I., and MISHCHENKO, V. D.

"Electromagnetic Transport During Casting of Magnesium Alloys"

Moscow, Tsvetnyye Metally, No 4, Apr 72, pp 65-66

Abstract: Problems of transporting magnesium alloys and the effect of transporting on properties of the alloys were investigated. Application of a variant of the KPM-3M electromagnetic conduction pump made it possible to cast without additional start devices by changing the pump discharge from zero to the maximum value. The introduction of the pump with a self-starting device will make possible complete automation of the casting process with control from a central desk. One illustration, one table, four bibliographic references.

1/1

Power, Turbine, Engine, Pump

UDC: 621.313.3:538.4

USSR

MIKEL'SON, A. E., MISHCHENKO, V. D.

"A Conduction Pump for Handling Magnesium"

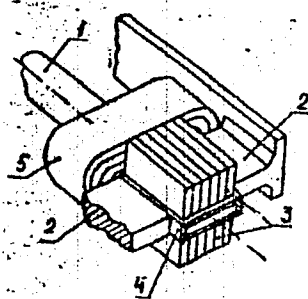
Riga, Magnitnaya Gidrodinamika, No 3, Jul-Sep, 1971, pp 125-129

Abstract: The paper describes the theoretical design and experimental testing of a submersible AC conduction pump for magnesium. The unit is used for continuous pumping of magnesium from the melting furnace to a continuous teeming installation. A diagram of the pump is shown in the figure. A straight-flow flat channel with inlet 4 is located between two stacks of steel transformer plates 3. Supply current from a step-down transformer is applied to busbars 2. The magnetic flux induced by the current is shorted through the stacks of steel plates and the closed magnetic circuit 5 which surrounds the channel and is in tight contact with the stacks. Interaction between the current in the channel and the magnetic field induced by this current in the gap between the stacks creates a body force which moves the molten metal from the inlet 4 to the outlet 1 of the channel. Five illustrations, bibliography of two titles.

1/2

USSR

MIKEL'SON, A. E., MISHCHENKO, V. D., Magnitnaya Gidrodinamika, No 3,
Jul-Sep 1971, pp 125-129



2/2

- 174 -

USSR

UDC 536.2:536.421

KURAPOV, YU. A., and MISHCHENKO, V. P., Kiev

"Temperature Conditions of the Liquid Metal Bath Surface in Electron-Beam Smelting"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan-Feb 72, pp 15-18

Abstract: The effect of scanning electron-beams and the drop metal transfer on the surface temperature of the melt in the crystallizer was experimentally investigated on the U-143 electron-beam unit equipped with a ten-gun heater making it possible to produce a fairly uniform heating surface of the metal bath. The metal bath surface temperature was investigated by resmelting Armco iron and steel 9Kh18. The results are discussed by reference to diagrams showing the effect of the power input and the billet supply rate on the temperature of the metal bath surface. It was found that the drop flowing off from the end of the billet by its fall into the liquid metal bath produces a short-time temperature decrease of the metal bath surface by 80-100 degrees on the average. Three illustrations, four bibliographic references.

1/1

Acc. Nr:

AP0052063

Ref. Code: 010396

PRIMARY SOURCE: Patologicheskaya fiziologiya i
Eksperimental'naya terapiya, 1970, Vol 14,
Nr 1, pp 45-49

DOES HEPARIN INFLUENCE THE DISCHARGE OF TISSUE FACTORS OF BLOOD
COAGULATION FROM THE VASCULAR WALL?

Mishchenko, V. P.

With the aid of an original method it was shown that tissue factors failed to be
discharged from the vascular wall (venous and arterial) under the effect of heparin.
This is against the data of A. A. Markosyan with associates.

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RESPIRATION OF BOTTLE-NOSSED PORPOISES

Article by A. Z. Kolchinskaya, O. G. Karandeeva, V. S. Mischenko, N. M. Shapovalov, S. K. Katsiyeva and Yu. V. Stepanov, Kiev: Kiev, Bionika, Russian, No 3, 1971, Izd-vo "Naukova Dumka," pp 19-28

JPRS 55992
15 MAY 72

The specialization of the respiratory system in cetaceans in a water medium resulted in profound anatomical and physiological changes in this system. Despite the fact that the study of respiration of marine mammals is of the greatest importance for biologists, zoologists, physiologists and immunologists, until recently information on the structure and function of these animals was limited due to the singularity and apparatus for specialized investigations. In the present time not only the respiration of marine mammals, but also a number of other articles and sections in zoology, which have been devoted to this subject (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100). But even in these animals such important factors as total lung capacity and its components, composition of alveolar air, physiological dead respiratory space, and alveolar ventilation have not been determined experimentally. Data on them have been cited on the basis of speculative conclusions.

The literature contains no information on the mechanics of respiration of dolphins. There is virtually no precise information on respiration regimes and on the factors exerting

CHARACTERISTICS OF CHANGE IN RESPIRATION OF BOTTLE-NOSSED PORPOISES

Article by V. S. Mischenko, V. M. Shapovalov and S. K. Katsiyeva, Kiev: Kiev, Bionika, Russian, No 3, 1971, Izd-vo "Naukova Dumka," pp 28-37

JPRS 55992
15 MAY 72

Study of the mechanisms of respiration of the animals in a water medium, ensuring adaptation of the respiratory system to conditions of high motor activity in the water medium, is of great importance for biologists, zoologists, physiologists and immunologists. However, at the present time there have been no data on the structure and function of these animals, and in particular on the respiration of dolphins, when there is a shortage of oxygen in the breathed air.

This investigation, made under the direction of Doctor of Medical Sciences A. Z. Kolchinskaya, had as its objective a study of the mechanisms of respiration of the animals in a water medium, ensuring adaptation of the respiratory system to conditions of high motor activity in the water medium, is of great importance for biologists, zoologists, physiologists and immunologists. However, at the present time there have been no data on the structure and function of these animals, and in particular on the respiration of dolphins, when there is a shortage of oxygen in the breathed air.

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UDC 612.176-053

MISHCHENKO, V. S., and GUNYADI, B. K., Institute of Physiology imeni O. O. Bogomolets, Academy of Sciences, Ukrainian SSR Kiev

"Cardiac Output in Children and Adolescents After Submaximal Exercises"
Kiev, Fiziologichnyi Zhurnal, No 6, 1970, pp 774-783

Abstract: The minute volume of blood, some other parameters of hemodynamics, and oxygen transport function were measured in children 8 to 15 years of age (and in adults for purposes of comparison) after submaximal exercise on an ergometer bicycle when oxygen consumption and functional changes in the circulatory system are close to the maximal indexes. The possibilities of central circulation were found to increase substantially in children while the utilization of oxygen from the blood changes only slightly at this age. Hence the reserve capacity for increased oxygen consumption in children is related to more the circulatory factors responsible for the low utilization of oxygen from blood than to the capabilities of central circulation. The period from adolescence to adulthood, however, is characterized by an increase in central circulation, oxygen transport by blood, and utilization of oxygen from blood.

1/1

MISHCHENKO